

# MK350N Premium


Handheld spectrometer



**UPRtek** 群耀科技股份有限公司  
United Power Research Technology Corporation

 [www.uprtek.com](http://www.uprtek.com)

 [sales@uprtek.com](mailto:sales@uprtek.com)

 +886-37-580885

# Outline

3.5" Color Touch Screen

Sensor

Power Key

Capture Key

Battery



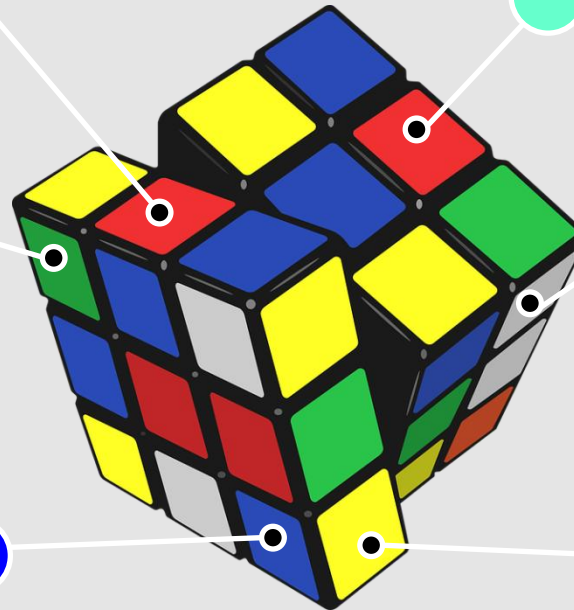
# Key Features

## Dual Engines

Perform both of Light/Color Measuring & Flicker Measuring at a Stand-Alone Handy Device

## Completed Light & Color Measurements

Visible Spectrum, CCT, Lux, Irradiance, CRI, CQS, TLCI, GAI, TM-30 (Fidelity, Saturation, Hue) CIE Chromaticity  $x/y$  &  $u'/v'$



## Upgraded Accuracy

Lux , CIE Chromaticity

## Add Flickering Measuring Capability

Fulfill requirement of Flicker Measuring for Lighting & LED Applications

## The Best Cost-Performance

Only Cost less than \$US 2,000

## Faster Measuring Speed

20 times faster

# Key Parameters

**S/P  
Ratio**

**CIE 1976 Color  
Chromaticity**  
 $u'/v'$

**TLCI**  
Television Lighting  
Consistency Index

**CQS  
GAI**

**Duv**  
CIE1960  $u'/v'$   
Color Coordinate  
Difference

**CIE 1931 Color  
Chromaticity**  
 $x/y$  & XYZ

**Brightness**  
Lux & Fc

**CRI**  
Ra & R1~R15

**TM-30**  
Rf & Rg & Color  
Vector Graphic

**$\lambda_pV$**   
Value of Peak  
Wavelength

**CCT**  
KELVIN

**Irradiance**  
mW/m<sup>2</sup> for Light  
Intensity

**Flicker**  
Percentage Flicker  
Flicker Index

**I-Time**  
Integration Time  
Exposure Time

**$\lambda_p$**   
Peak Wavelength

**SVM**  
Stroboscopic Effect  
Visibility Measure

**Frequency**  
Light Wave  
FFT

# Introduction of Operation mode



# Operation Mode



- **BASIC mode**  
CCT / CRI / LUX /  $\lambda_p$  / i-Time and etc.
- **SPECTRUM mode**  
Visible light spectrum
- **CIE mode**  
CIE1931 chromaticity / CIE1976 chromaticity
- **BROWSER mode**  
Review historical data and save to the SD card easily.
- **OPTION mode**  
Other setup items to note in the System



- **new** • **TM-30 mode**  
Rf / Rg / Color Vector Graphics
- **new** • **FLICKER mode**  
Frequency / Flicker Index / Percent Flicker / SVM
- **new** • **FREQUENCY mode**  
Frequency-domain / Time-domain diagram

# BASIC Mode

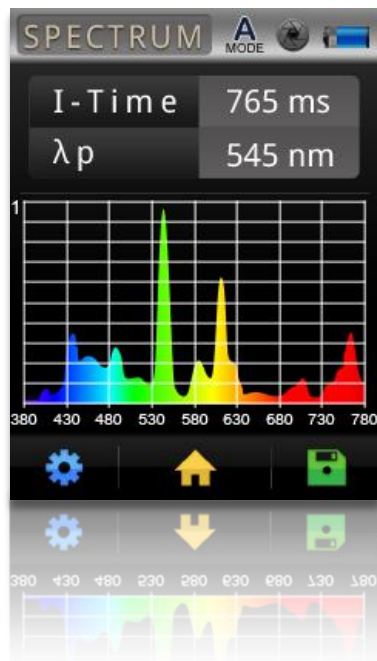
↘ Creating your main 4 Customizing Menu Items



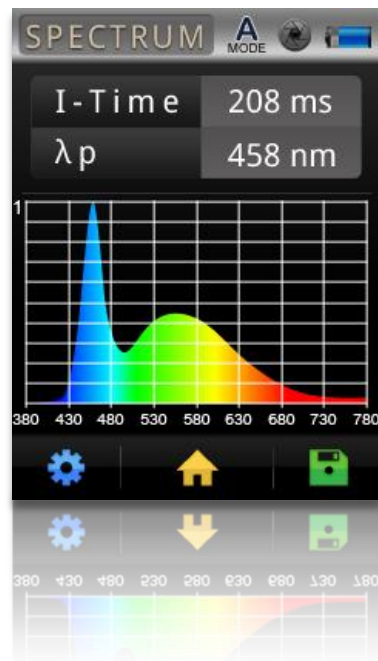
# Spectrum Mode

Visualizing the spectrum status in 380-780nm easily

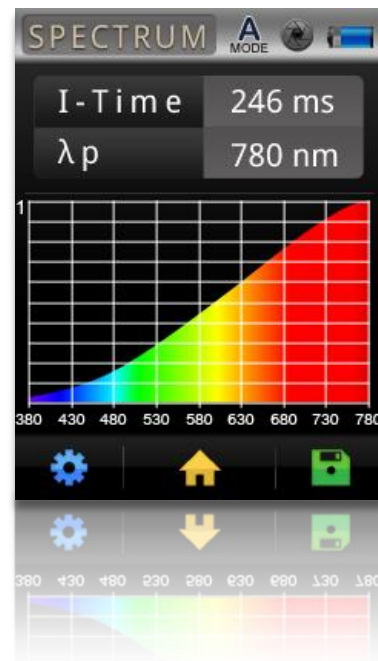
Fluorescent Light



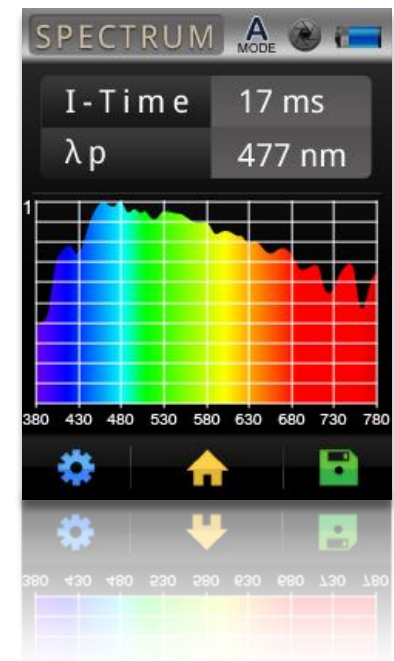
LED Light



Incandescent Light



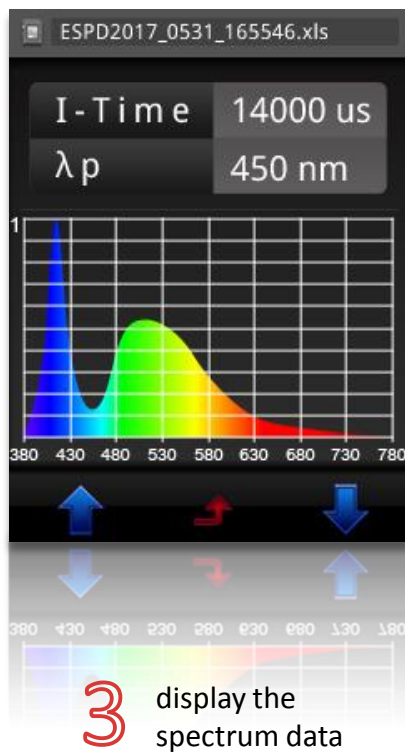
Sun Light





# BROWSER Mode

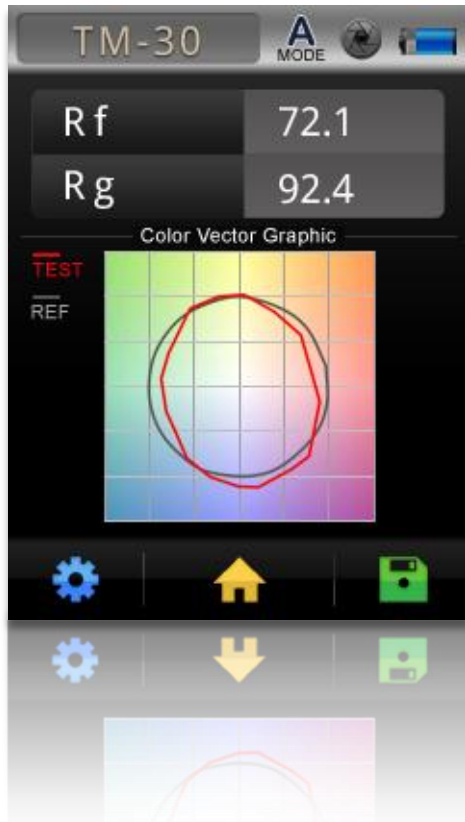
↘ Real-time data reading on device from SD card directly.



# IES TM-30-15 Mode



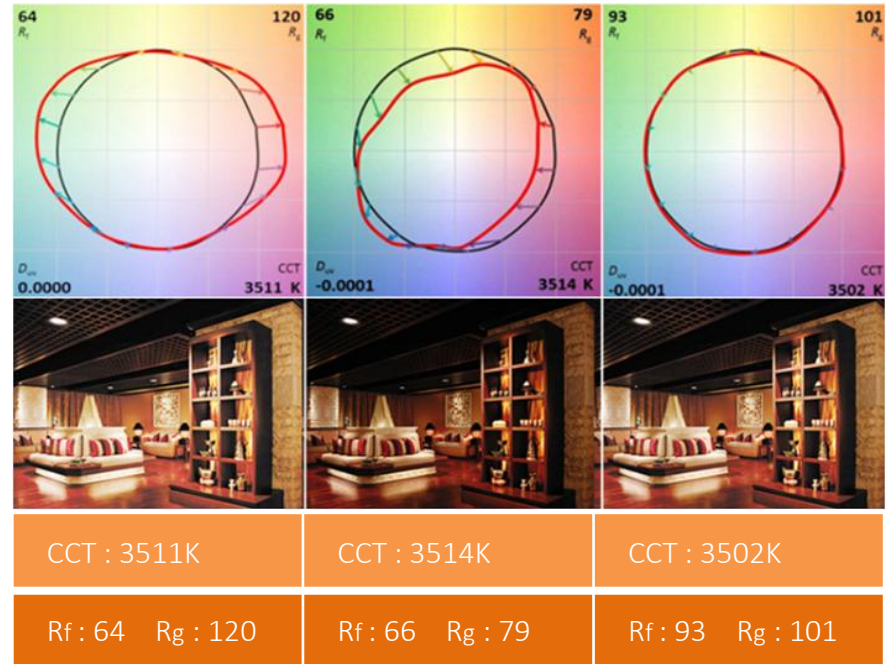
- Evaluating Color Rendition perfectly through the Rf (Fidelity Index) and Rg (Gamut Index) and Color Vector Graphic.



1W-30

—: Test source

—: Reference illuminant



# FLICKER Mode



➤ Be aware of the LED flicker problems quickly by using Flicker Index, Percent Flicker and SVM



- Frequency
- Percent Flicker
- Flicker Index
- SVM



**Percent Flicker**

- Range : 0%-100%
- Lower Pct Flicker is better.

**Flicker Index**

- Range: 0-1
- Lower Flicker Idx is better

**SVN**

- SVM <1, Not Visible
- SVM >1, Visible
- SVM =1, Just Visible

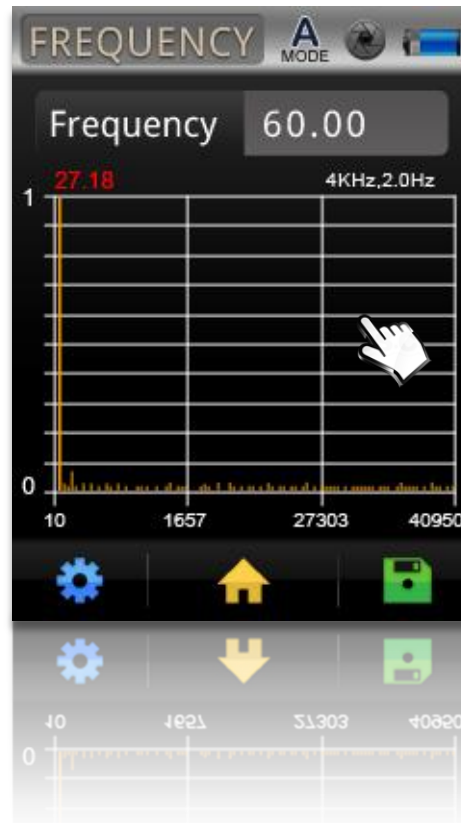
# FREQUENCY Mode

new

- Real time examination of high-speed signals in both time domain and frequency domain.



- Frequency
- Frequency-domain diagram
- Time-domain diagram



# Multiple-measurement

↘ Flexible service provider by full capability.



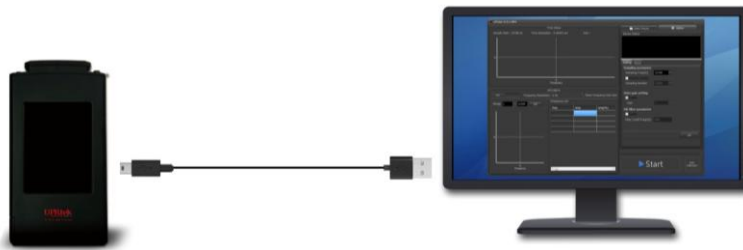
- With PC software through USB cable



uSPECTRUM



uFLICKER



- With APP through WIFI card



uSPECTRUM MK350N Premium App



# MK350N PLUS vs.MK350N Premium



Model	MK350N PLUS	MK350N Premium
Launch Year	2015	2017
IES TM30-15	✓	✓
Flicker Frequency Range	10 - 165 Hz	5 - 50k Hz
Measurement Range	5 - 70,000 lx	5 - 100,000 lx
Illuminance Accuracy	±5%	±2.5%
Illuminance Repeatability (2 $\sigma$ )	N/A	0.2% ( 100 - 100,000lx ) 0.5% ( 5 - 100lx )
Color Accuracy	± 0.0025	x y : ± 0.002 ( 100 - 100,000lx ) x y : ± 0.0025 ( 5 - 100lx )
Color Repeatability (2 $\sigma$ )	± 0.0005	x y : 0.0002 ( 500 - 100,000lx ) x y : 0.0004 ( 30 - 500lx ) x y : 0.001 ( 5 - 30lx )
PC Software	uSPECTRUM PC Software	uSPECTRUM PC Software uFLICKER PC Software
Applicable Industry	Business Lighting Industry	Business Lighting Industry

# Application



Academics



LED Trading



LED Professionals



LED Manufacturing



Visual Merchandising



Light and Agriculture



Road and Traffic



Medical



Lighting Designers



Health and Safety



Marine Biology



LED Screens

# Who is Work with UPRtek







- **United Power Research Technology Corp** -- UPRtek / BU1 / Sales Division
- Website : <http://www.uprtek.com/>
- Mail : [Sales@uprtek.com](mailto:Sales@uprtek.com)